

## General Information

1992

**Video: 2 Head Rotary**  
**Audio: Linear Fixed 1**  
**Channel**

**Covers Models**  
**Akai VS-F261/ VS-F262**  
**VS-F265/VS-F270**  
**VS-F275/VS-F290**

## Matrix

Item	See Model
Mechanical Parts View	Akai VS-422/425 89/90 Book.
Mechanical Adjustments	Akai VS-F10/11 91/92 Book.
Replacement Pinch Roller	Akai VS10/11 91/92 Book.

## Mechanical Parts List

Description	Part No.
6SET20X030SCM PKR FP	ZS-374458
6SET30X080SCM PKR CP	ZG-373900
Arm Coupling	ML-387311J2
Arm Damper	ML-391745J3
Arm Lid Opener	ML-387350J1
Arm Loading BLK 425EA	BL-V1102A140A
Arm Loading Brake	ML-387423J
Arm Review Part	ML-387277J3
Arm Shutter	ML-38734912
Base Drum	MA-387474J3

## Head Motors and Miscellaneous

Part No.	Description
BV-V1123A410A	Lower Drum BLK X400EGN
BV-V1123A420A	Upper Drum BLK X400EGN
BM-401296J	Motor E20EL89 (Drum Motor)
HR-405340J	Head Combo HTMZA1121A
HE-390013J	Head HVFME0020A
BM-400682J1	Motor DFX-67B3VWB1 (Capstan Motor)
BM-387503J	Motor Part (Loading Motor)

## Recommended Safety Parts

Item	Part No.	Description
D71, 72	ED-511907	D Silicon 1N4002 100/1.0A EM
D723, 74	ER-400959J	R Fuse V TO5 ERD2FCV 1/4W 1200G
FR201	ER-404093J	R Fuse V TO5 RF25SCVTP1/14WR56K
FR202, 501	ER-400729J	R Fuse V TO5 RF25SCVTP1/4WR47K
FR350	ER-331188	R Fuse H S10 ERD2FC 1/4W BR2J EOG
FR601	EQ-400153J	Relay POW AG2013 1TR 12V EM
RL101	ET-366365	TR 2SB1185 E,F
TR1, 5, 9, 13	ET-405622J	TR 2SD2061 E,F
TR12	BT-403873J	Trans Pow V1130 EO (Except EOG-V)
	BT-403883J	Trans Pow V1130 EOG-V (EOG-V)
	BT-403872J	Trans Pow V1130 EK
	BT-403252J	Trans Pow V1130 EA

Description	Part No.
Belt Capstan	MB-387289J
BID20X04STL CMT	ZS-464703
BID26X08STL CMT	ZS-563444
BID30X03STL CMT	ZS-425981
BID30X08STL CMT	ZS-321298
Cassette Load BLK 425EA	BV-V1102A150A
CMT BID30X08STL CMT	ZS-321298
Cord FFC P1 25 L=12013P (WP1)	EW-389313J
D LED GL451 Infrared (D1)	ED-390011J
D LED GL4800 Infrared (D2)	ED-390012J
Disk (2) Part	MT-390954J1
Disk Clutch Part	MZ-387298J3
Earth Brush Part AG	VT-401282J
Gear Eject	MZ-387335J
Gear Front Loading	MZ-387333J
Gear Slam Slider	MZ-387331J
Gear Toggle(S) BLK 425EA	MZ-V1102A090A
Gear Toggle(T) BLK 425EA	MZ-V1102A100A
Gear Worm Wheel	MZ-387332J
Guide Front (2)	SE-395554J
Guide Roller D8 PART	T-387394J1

Head Combo HVMZA1121A	HR-405340J
Head E H VFME0020A	HE-390013J
Holder D-LED	MZ-387430J
Holder FE Head Part B	MZ-402760J1
Holder FPC	SZ-387388J
Holder Lever Tension (2)	SZ-407187J2
Holder Photo Sensor	MZ-387446J1
Holder S Sensor	MZ-387445J
Holder Thrust Worm	MR-387406J

Idler Part	MI-387294J
Leader S BLK 425EA	V-V1102A070A
Leader S BLK 425EA	BV-V1102A080A
Lever Damper (S)	ML-387345J
Lever Damper(T)	ML-387346J
Lever Lock Release	ML-387344J
Lever Trigger	ML-387402J1
Lower Drum BLK X400EGN	BV-V1123A410A

Description	Part No.
Main Brake (S) Part	ML-387316J
Main Brake (T) Part	ML-387318J
Mecha Deck BLK F260EA	BB-V1130A020H
Motor DFX-67B3VWB1 (Capstan Motor)	BM-400682J1
Motor E20EL89 (Drum Motor)	BM-401296J
Motor Part (Gear Worm Part)	MZ-387330J
NUT Review	ZW-401776J
PAN20X02STL BZN PS1	ZS-404844J
PAN26X12STL CMT	ZS-467796
PAN30X06STL CMT	ZS-379350
PC ( ) SENSOR	EA-387496J
Pinch Roller (2) Part	MP-404852J
Plate Upper (2)	MZ-406134J
PT BID26X06STL CMT	ZS-365149
PT BID26X10ST CMT	ZS-389950J
PT BID30X06STL CMT	ZS-358936
Pulley Trigger(2)	MR-391968J

Description	Part No.
PW26X060X050PSL	ZW-389923J
PW31X110X050PSL	ZW-389814J
Retaining Ring Grip	ZW-332843
380STL ACP	ML-387321J
Review Brake Part	MR-387286J1
Roller Impedance	
Slider Brake Part	ML-387324J1
Slider Front Loading	ML-387428J
Slider Pinch Part	ML-387431J1
Slider Trigger (2)	ML-404944L
SLIT W17X032X025PSL	ZW-374445
SLIT W21X040X050PSL	ZW-387492J
Socket 174074-5 SP (P1)	EJ-381837J
Socket Housing	
5062-30-10-13 (PS1)	EJ-387497J
SP Loading Brake	ZG-387467J
SP Plate Earth	ZG-392294J
SP Plate Holder	ZG-387348J1
SP Pull Main Brake	ZG-387320J

Description	Part No.
SP Pull Review Brake	ZG-387323J
SP Pull Slider	ZG-387468J
SP Pull Tension	ZG-387272J
SP Pull Toggle	ZG-387414J1
SP Push A/C	ZG-387438J1
SP Torsion Arm Damper	ZG-395567J
SP Torsion Coupling	ZG-387403J
SP Torsion Damper (T)	ZG-388290J1
SP TorsionDamper(S)	ZG-387421J
SP Torsion Load (2)	ZG-392831J
SP Torsion Load (S)	ZG-387417J
SP Torsion Load (T)	ZG-387418J
SP Torsion Release	ZG-387420J1
SP Torsion Review	ZG-387282J
SP Trigger	ZG-387443J
ST BID30X06STL CMT	ZS-358936
ST BID30X06STL CMT	ZS-358936
ST BID30X12STL CMT	ZS-336714
ST BID30X12STL CMT	ZS-336714
ST PAN30X06STL CMT C080	ZS-344754

Description	Part No.
ST PAN30X06STL CMT C080	ZS-344754
SW Leaf	
MTS1011MPC1	ES-373099
SW Mode Select	
MMS00070ZLBO (SW1)	ES-387465J
Tension Arm BLK 425EA	BL-V1102A050A
Tension Band Part	ML-390768J4
TR Photo PN268 (TR1)	ET-361490
TR Photo PT 4800 (TR2)	ET-390010J
TR Photo PT 493F (TR4)	ET-390009J
Upper Drum BLK X400EGN	BV-V1123A420A

## Service Adjustments

- Precautionary items prior to adjustments
- The colour bar generator output should be 1.0 Vp-p.
  - The video output terminal should be terminated with 75 ohms (connect dummy load or 75 ohms input TV).

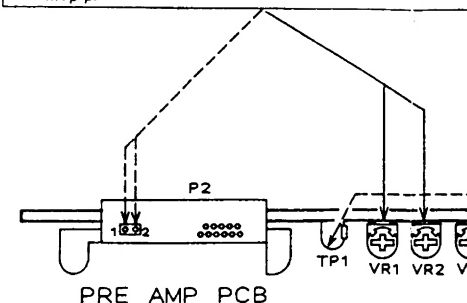
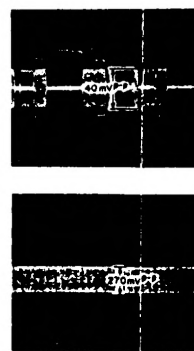
The following test tapes are required.

Test tape	Parts No.
TF-527BL	AT-711880
TF-530RFS	AT-751775
TF-532CBS	AT-751360
TF-553AT	AT-751785

- STEP | ADJUSTMENT ITEM
- MODE and INPUT SIGNAL/TEST TAPE
  - TEST POINT and ADJ part
  - REMARKS (\*) and RESULT (\*)

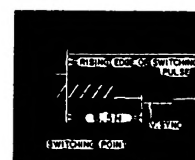
## 6 VIDEO REC CURRENT

- "REC", PAL colour bar signal
- P2 (REC.CURR) ① pin, ② pin & VR1 (REC-CHROMA), VR2 (REC-Y).
- Connect an oscilloscope's CH-1 to P2 (REC.CURR) ① pin and CH-2 to ② pin.
- Set the oscilloscope's display mode to "ADD" mode and CH-2 polarity to "INVERTED". (Make sure to set the oscilloscope's "volt/div" SW position where the waveform is not distorted and CH-2 position should be the same as CH-1.)
- Turn the VR2 (REC-Y) fully, counterclockwise.
- \* Adjust VR1 (REC-CHROMA) so that the chroma REC current becomes 40 mVp-p at the burst signal area.
- \* Disconnect the input signal, then adjust VR2 (REC-Y) so that the Y REC current becomes 270 mVp-p.



## 1 PB SWITCHING POINT

- "PB", test tape TF-530RFS
- TP1 (SWP), VIDEO OUT & VR301 (SW.POINT)
- Connect an oscilloscope's CH-1 to TP1 (SWP) for triggering and CH-2 to VIDEO OUT.
- \* Adjust VR301 so that the switching point is positioned 6.5 H from the V-SYNC left edge as shown.



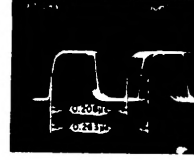
## 7 VIDEO PB LEVEL

- "REC" → "PB", PAL colour bar signal
- VIDEO OUT & VR404 (PB LEVEL)
- Connect an oscilloscope to VIDEO OUT
- Make a recording on the tape, then play it back
- \* Adjust VR404 so that the PB level becomes 1.0 Vp-p



## 5 CARRIER SET &amp; DEVIATION

- "REC", PAL colour bar signal
- TP401 (REC.Y) & VR402 (CARRIER), VR403 (DEVIATION)
- Connect an oscilloscope to TP401 (REC.Y)
- \* VR402 (CARRIER) : 0.263 μs (3.8 MHz)
- \* VR403 (DEVIATION) : 0.208 μs (4.8 MHz)



## 3 AUDIO REC BIAS

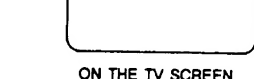
- "REC", No signal input
- P801 ① pin, ② pin & VR801
- Connect an AC voltmeter to P806 ① pin (GND side) and ② pin. (Never connect the AC voltmeter's GND to the VCR's ground.)
- \* Adjust VR801 so that the reading on the AC voltmeter becomes 2.4 mV

## 2 AUDIO PB LEVEL

- "PB", test tape TF-527BL
- AUDIO OUT & VR802
- Connect AC voltmeter to AUDIO OUT
- \* -5 dBs

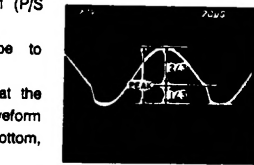
## 8 CHARACTER POSITION

- "E-E" (STOP mode), No signal input
- VIDEO OUT, TV screen & VC601 (IMS)
- Press the "DISPLAY" button once on the remote control to display the elapsed tape counter.
- Connect an oscilloscope to VIDEO OUT
- \* Adjust VC601 (IMS) so that the right end of the IMS signal becomes 49 μs from the H-SYNC as shown.



## 9 P/S AUTO SENSITIVITY (EM/EDG/EOG/EOG-V ONLY)

- "E-E"(STOP mode), SECAM colour bar signal
- TP701 (P/S SENS), VL701 (P/S SENS)
- Connect an oscilloscope to TP701 (P/S SENS)
- \* Adjust the VL701 so that the distorted point of the waveform becomes 1/3 from the bottom, as shown.

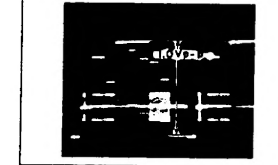


## 10 ENVELOPE DETECT (I-HQ)

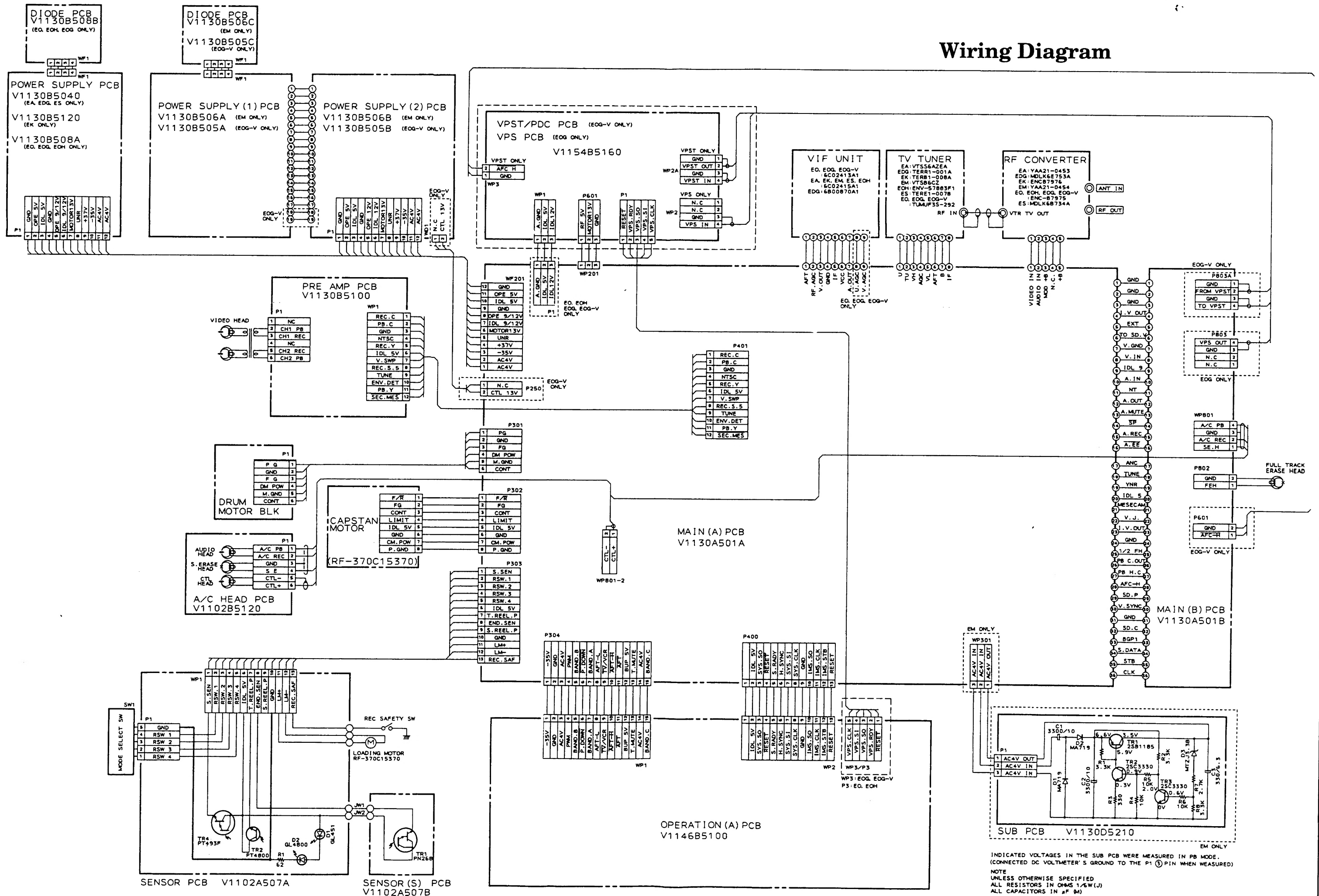
- (This adjustment should be performed in the "TEST" mode.)
- To set the VCR to the "TEST MODE", press and hold both the "POWER" and "EJECT" buttons on the front panel, then plug in the AC power cord.
- The TEST MODE can be cancelled by disconnecting the AC power cord or simply by pressing the RESET button on the front panel.
- "REC" → "PB", PAL colour bar signal
  - FL display & VR3
  - Record the PAL colour bar signal on the test tape TF-553AT and then play it back.
  - Observe the number which is displayed on the minute part of the FL display.
  - \* Adjust the VR3 so that the number displayed on the FL display becomes "91".

## 4 VIDEO E-E LEVEL

- "E-E" (STOP mode), PAL colour bar signal
- VIDEO OUT & VR401 (E-E LEVEL)
- Connect an oscilloscope to VIDEO OUT.
- \* 1.0 Vp-p

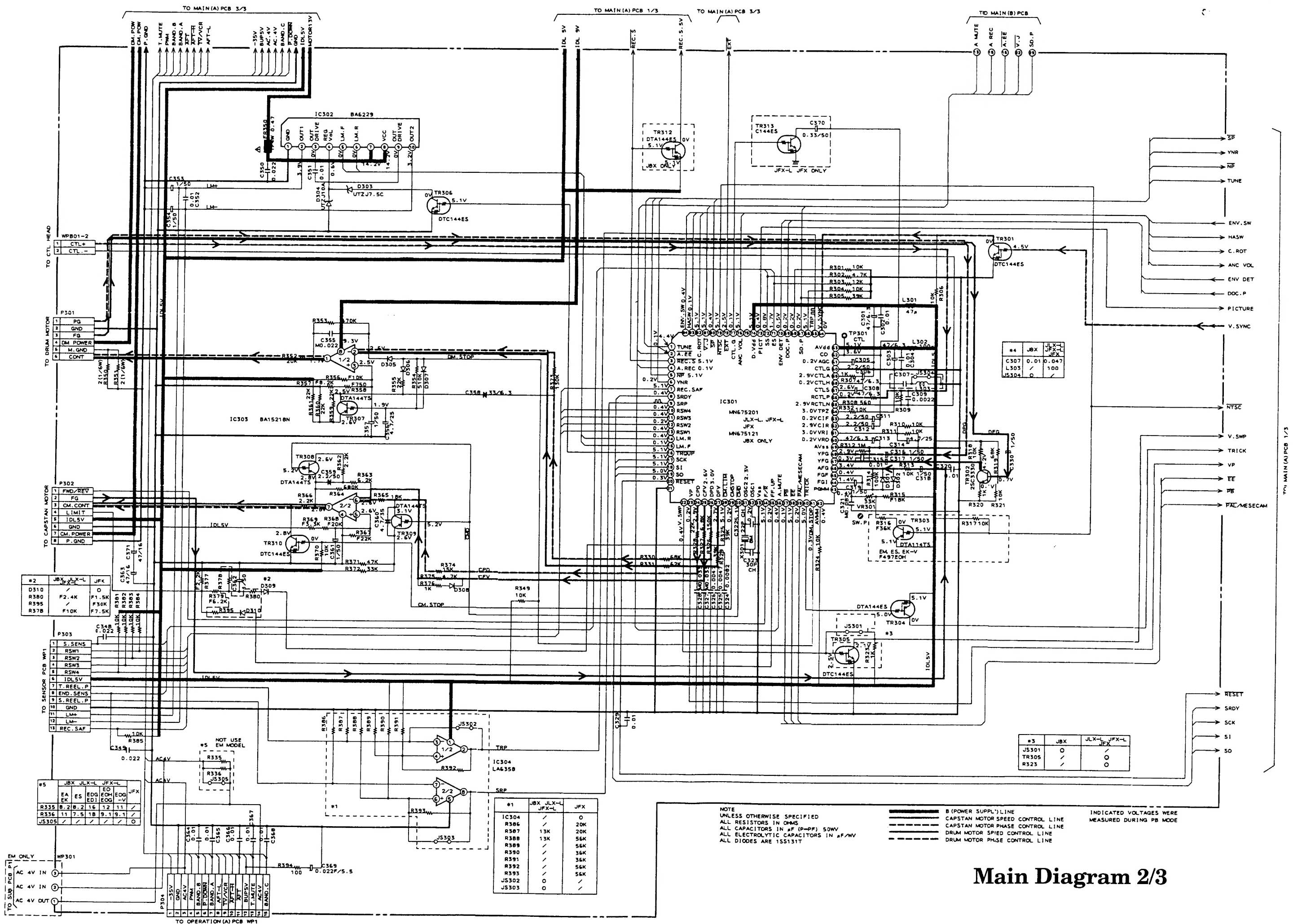


SENSOR (S) PCB  
V1102A507B



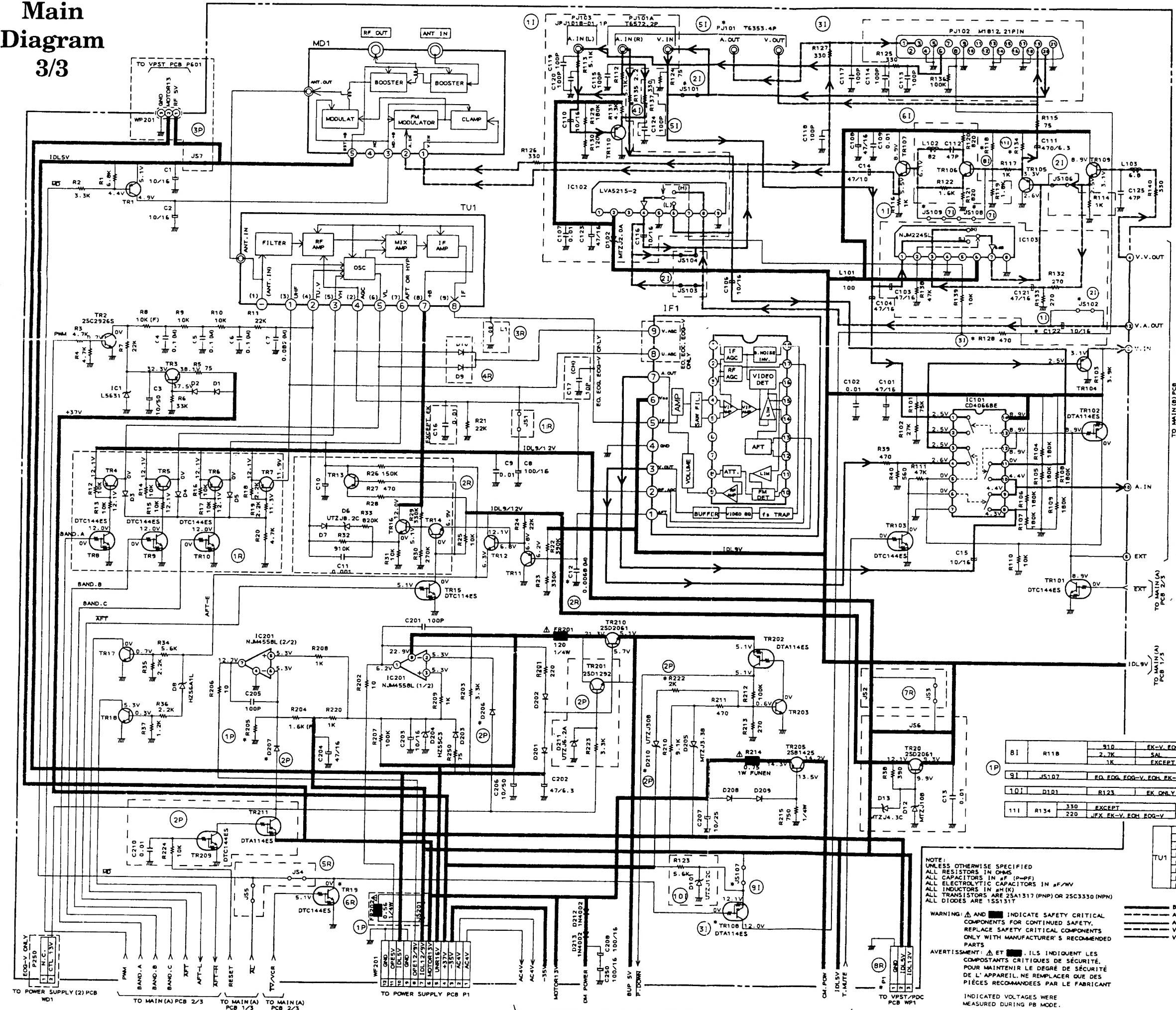
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Main Diagram 2/3

Main  
Diagram  
3/3



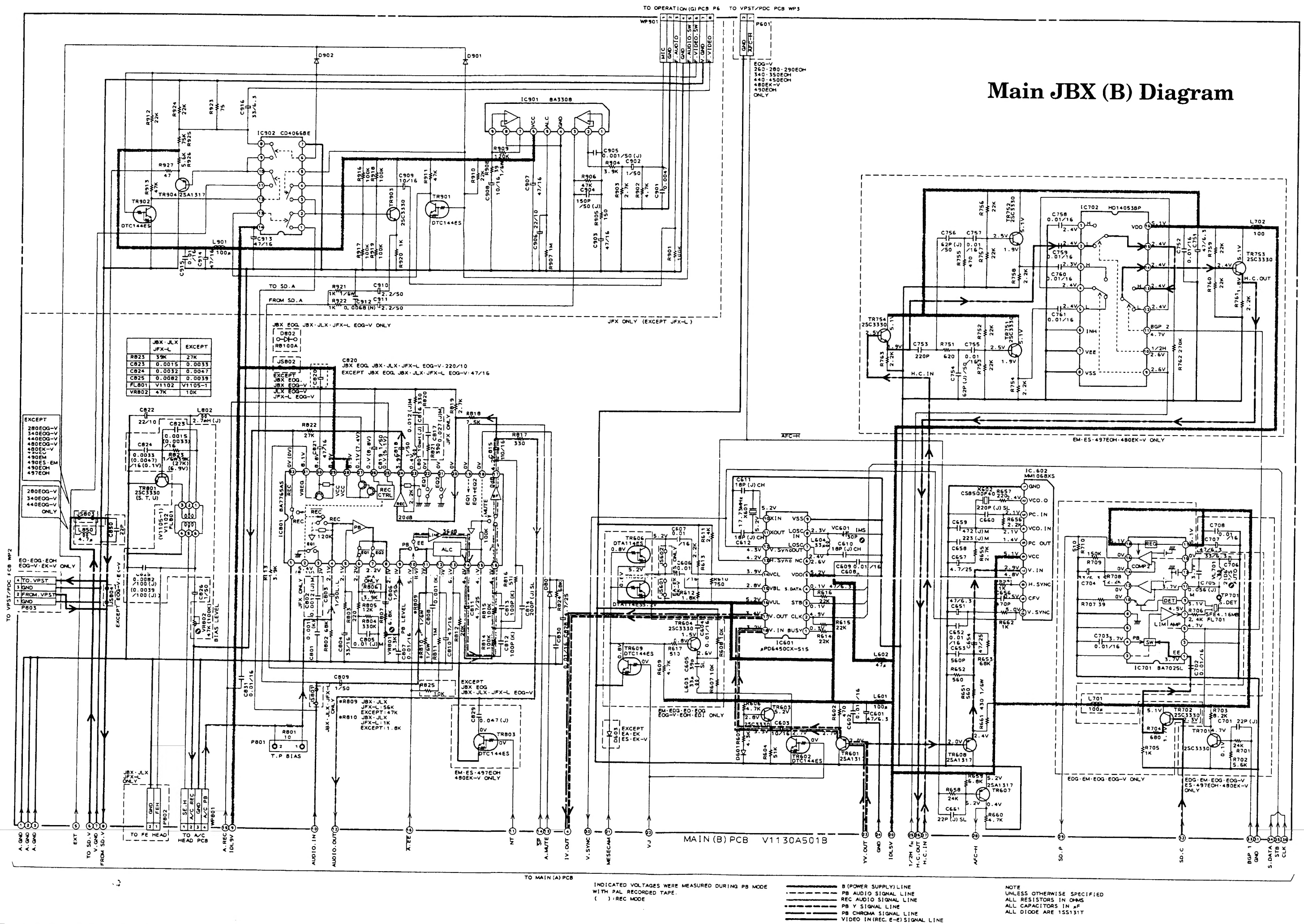
1R	TR4, TR5, TR7	2SA1317	EXCEPT
	TR6, TR9	DTC144ES	EA, EK-V
	R12, R13, R14, R15	10K	
	R18, R19	2.2K	
	R20	4.7K	
	D3, D4	1SS131T	EOH ONLY
2R	TR10	2SA1317	
	R16, R17	DTC144ES	
	D5	10K	
	D6	1SS131T	EA, EK-V
	JS1		
3R	TR13	2SA1317	EXCEPT EOH
	R26	150K	
	R27	470	EA, EK-V, EOG, EOG-V
	C10	1/50	EA, EOG, EDI, JFX-ES
	R28	910	EA, EOG, EOG-V, EK-V
	TR14, TR16	2SC3330	EA, EM, ES, EK, EOG, EDI
4R	R29	330K	
	R30	270K	
	R31	10K	
	R32	910K	
	R33	820K	
	C11	0.001	
5R	C12	0.0068(M)	
	D7	1SS131T	
	D8	1N4148, 2C	
6R	L1	1.0	EA
		0.82	JFX-EQ
		0.68	EA, EK-V, EM
		NONE	EO, EOG, EOG-V, EOG, EDI, ES
			JFX-EQ, JX-EQ
7R	D9, D10	1SS131T	EO, EOG, EOG-V
8R	P1	PH 3P	EO, EOH, EOG, EOG-V, EK-V
9R	R205	1.5K(F)	EO, EOH, EOG, EOG-V, EK-V
	TR20	2SD2061	EA, EM, ES, EK, EOG, EDI
	C13	0.01	EO, EOH, EOG, EOG-V, EK-V
	R38	330	
	D12	D13	FR202
	JS6	JS201	EA, EM, ES, EK, EOG, EDI
10R	R222	2K	
	R223	3.3K	
	R224	10K	
	D206, D207	1SS131T	EOG, EOG-V
	D210	1N4148	ONLY
	D211	1N4148, 2A	
11R	TR201	2SD1292	
	TR202	DTC144ES	
	TR211	DTA114ES	
	C210	0.01	
12R	JS7		EXCEPT EOG, EOG-V
	WP201		EOG, EOG-V ONLY
	P250		EOG-V ONLY
13R	TR110	C121	JFX-
	IC102	C122	EK-V
	IC103	C123	EOH, EOG-V
	C105	R112	ONLY
	C107	R113	
	C110	R129	C115
14R	C115	R130	EOG-V
	C116	R131	H, BLK
	C119	R132	D102
	C120	R133	PJ101A
		R138	PJ103
15R	JS101	JS104	EXCEPT
	JS102	JS105	JFX EK-V
	JS103	R114	EOH, EOG-V
16R	PJ102	R125	EK, EO, EOG
	C113	R128	EK-V, EOG-V
	C114	R136	EOH
	TR108		
17R	R135	JBX, JX-	
		EK, EO, EOG, EOH, EK-V, EOG-V	
		JFX-	
		EO, EOG	
18R	PJ101	R137	EA, EOG, EM
	C124		ES, EDI
19R	C112	R122	
	R119	L102	
	R120	TR106	
	R121		SAL
20R	JS108	JS109	EXCEPT SAL
21R	EA	VTSS6A7 EA	
	EOG, EDI	TERB1-001A	
	EK, EK-V	TERB1-008A	
	EM	VTSS6C7	
	EOH	ENV-57883F1	TERB1-001B
	EO, EOG, EOG-V	TERB1-007B	
22R	ES	TVM235-292	TERB1-004A
23R	YAA21-0453	EA	
	YAA21-0454	EM	
	ENC87975	EO, EOG, EOG-V, EOH	
	ENC87976	EK, EK-V	
	MDL66R13B	ES	
	MDL66R33A	EOG	
24R	MDL66F76A	EDI	

NOTE: UNLESS OTHERWISE SPECIFIED  
ALL RESISTORS IN OHMS  
ALL CAPACITORS IN P (P-P)  
ALL ELECTROLYTIC CAPACITORS IN F/MV  
ALL INDUCTORS IN MH(K)  
ALL TRANSISTORS ARE 2SA1317 (PNP) OR 2SC3330 (NPN)  
ALL DIODES ARE 1SS131T

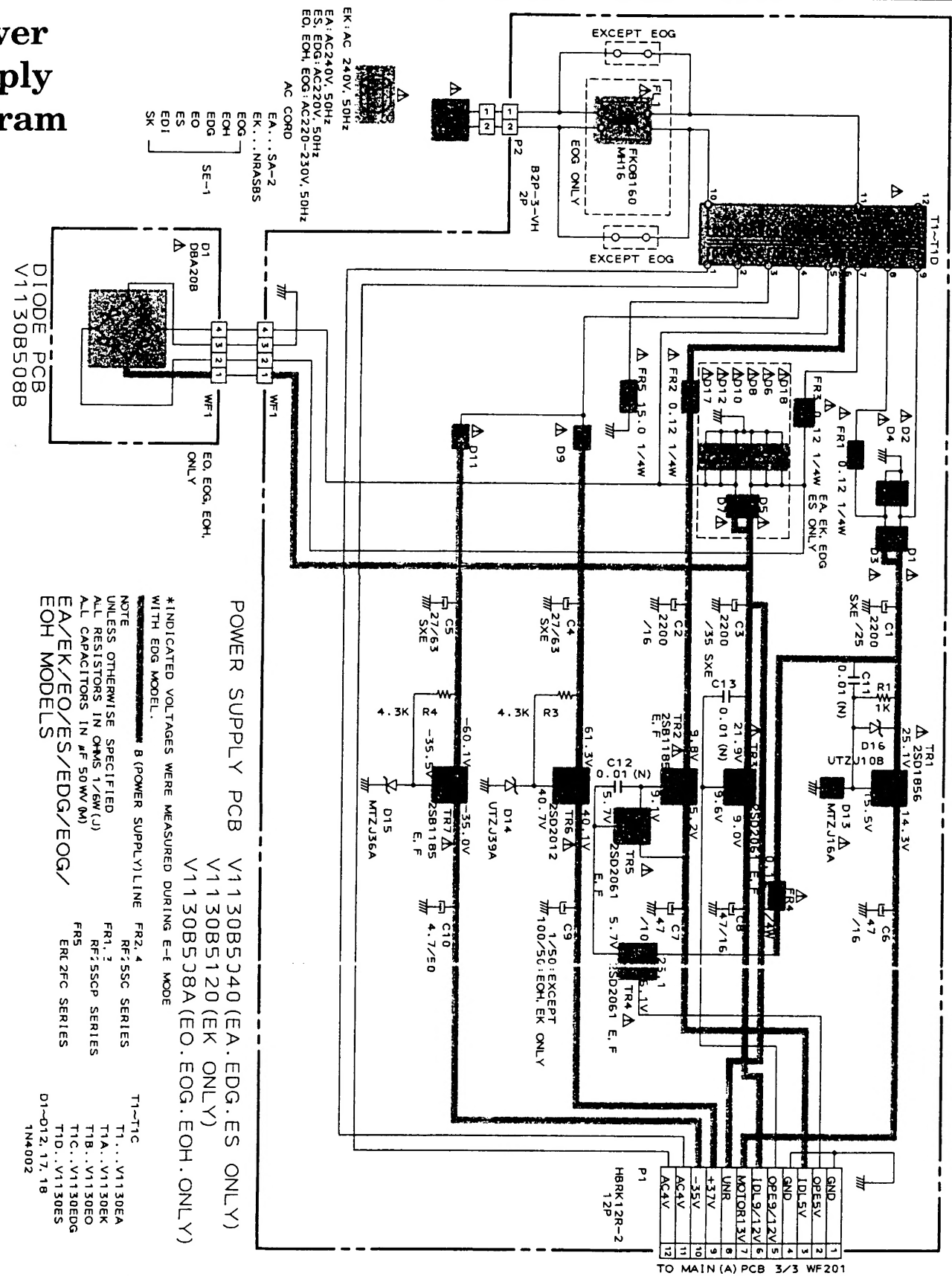
WARNING: Δ AND ■ INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY.  
REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT: Δ ET ■ ILS INDIQUENT LES COMPOSANTS CRITIQUES DE SÉCURITÉ.  
POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT

INDICATED VOLTAGES WERE MEASURED DURING PB MODE.



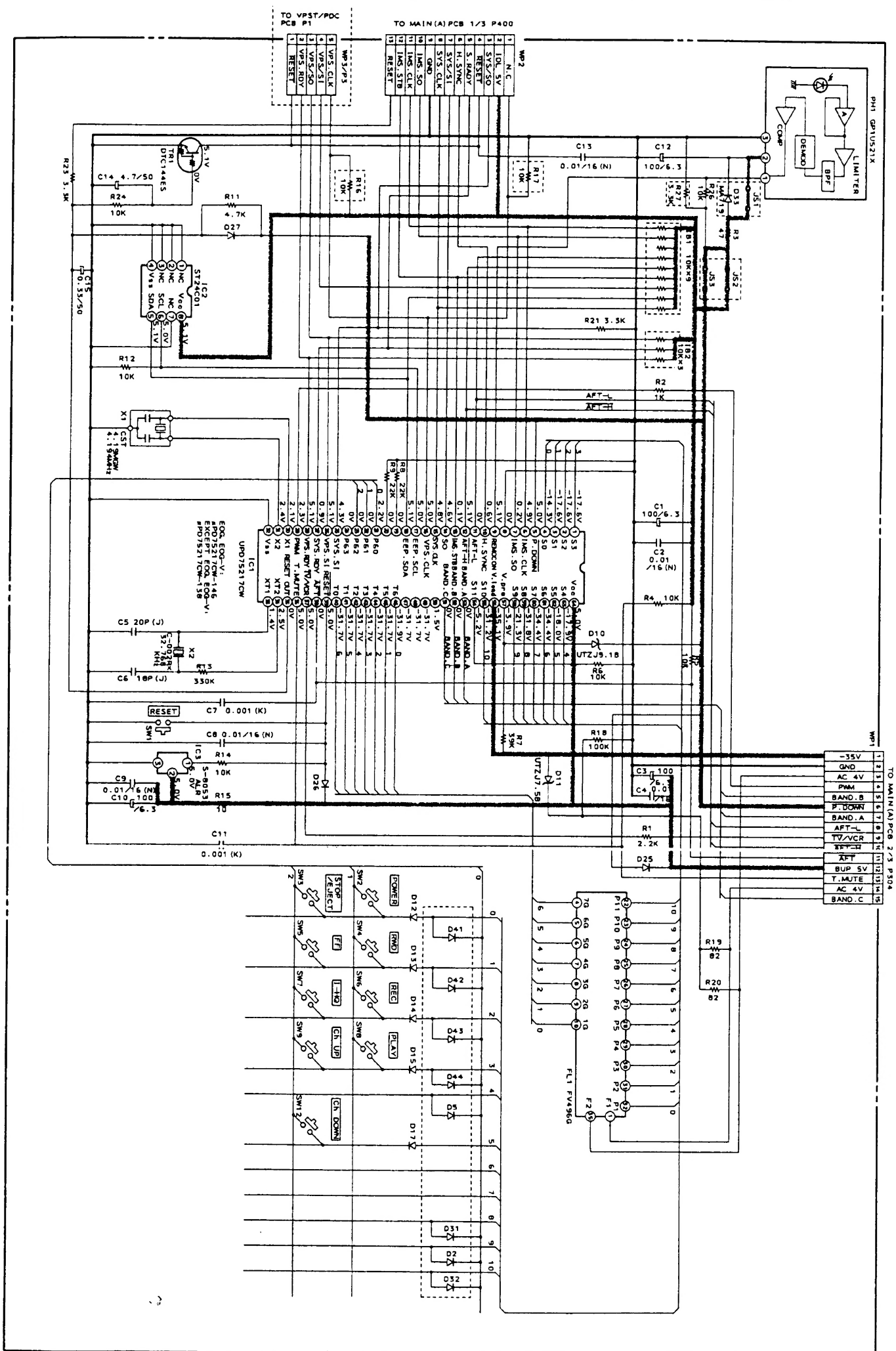
# Power Supply Diagram



# Operations JBX (A) Diagram

	E	A	EDG	E K	E M	E O	EOG	EOG-V	EOH	EDI	E S	S	SEG	S K	JFX-L (PAL)	JFX-L (SECAM)
D2						○	○	○	○							
D5					○						○					
D31															○	
D32								○	○*							
D33							○	○								
D41			○		○			○					○			
D42					○									○		
D43	○		○	○							○					
D44						○			○							
JS1	○		○	○	○	○			○	○	○	○	○	○		○
JS2	○		○	○	○	○			○	○	○	○	○	○		
JS3							○	○	○		○			○		
R16	○		○	○	○	○	○	○	○	○	○	○	○	○		
R17						○	○	○				○		○		
R27							○	○								
P 3						○			○							
WP3							○	○								

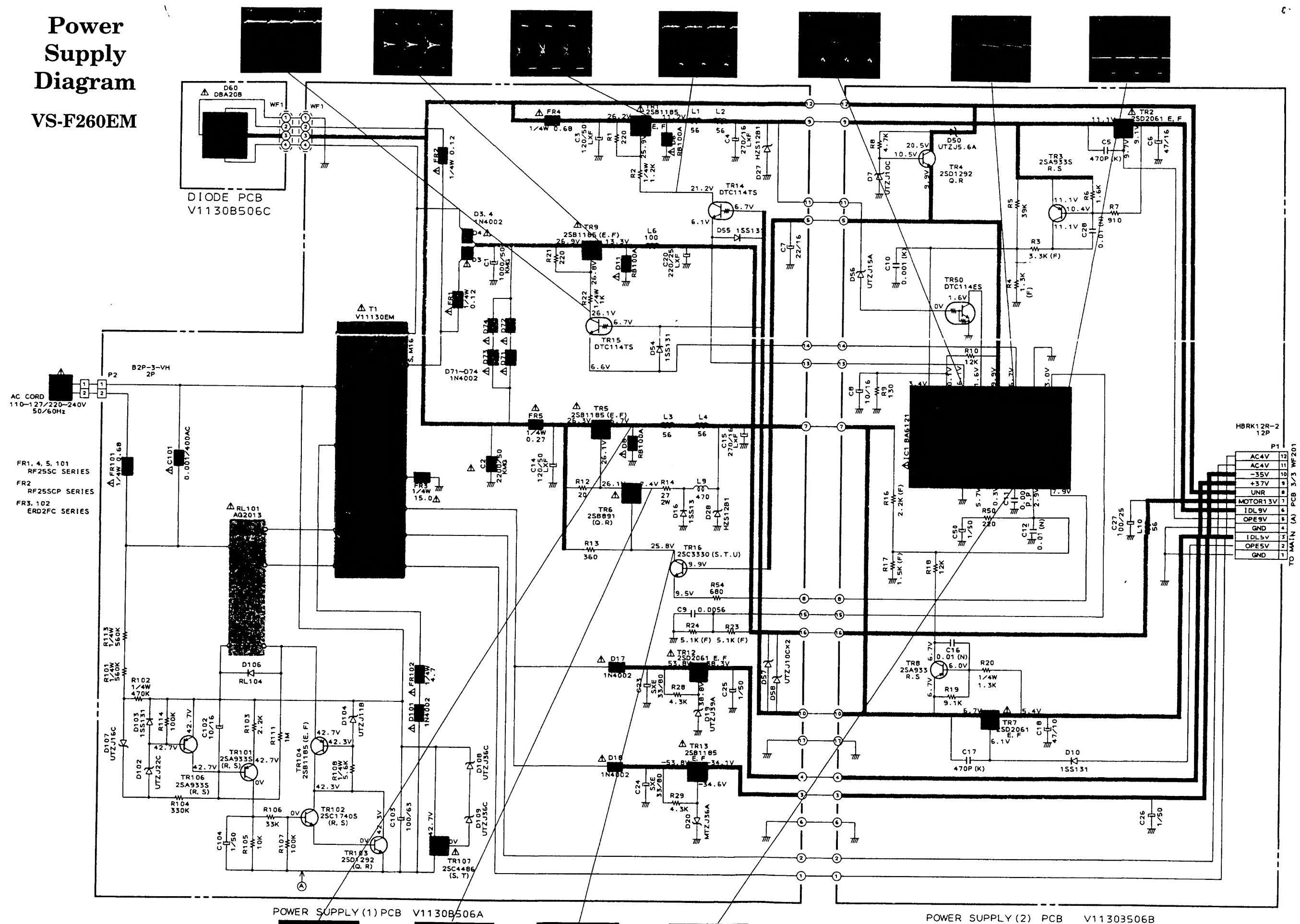
\*: EXCEPT F265, F275, F455



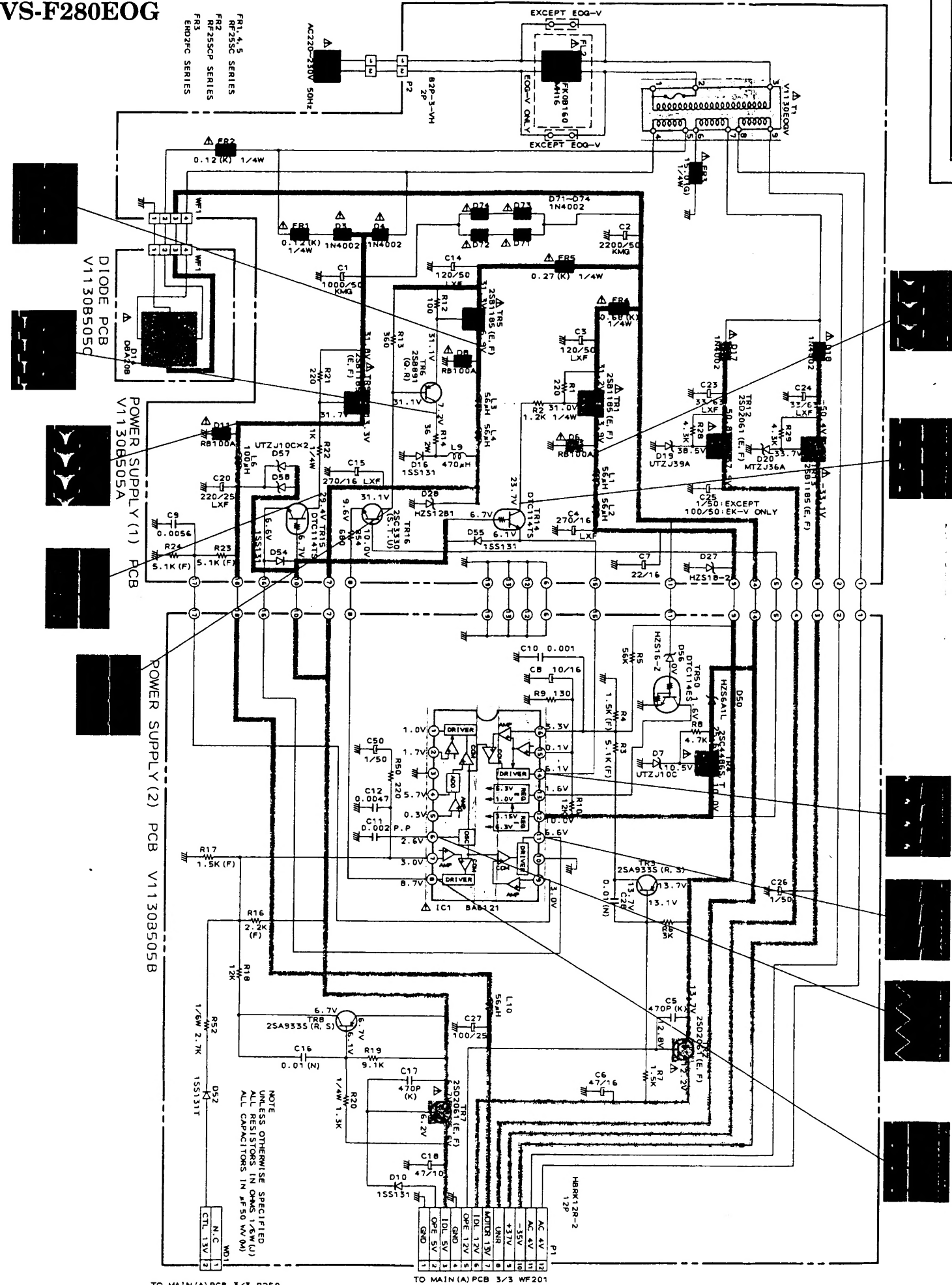


# Power Supply Diagram

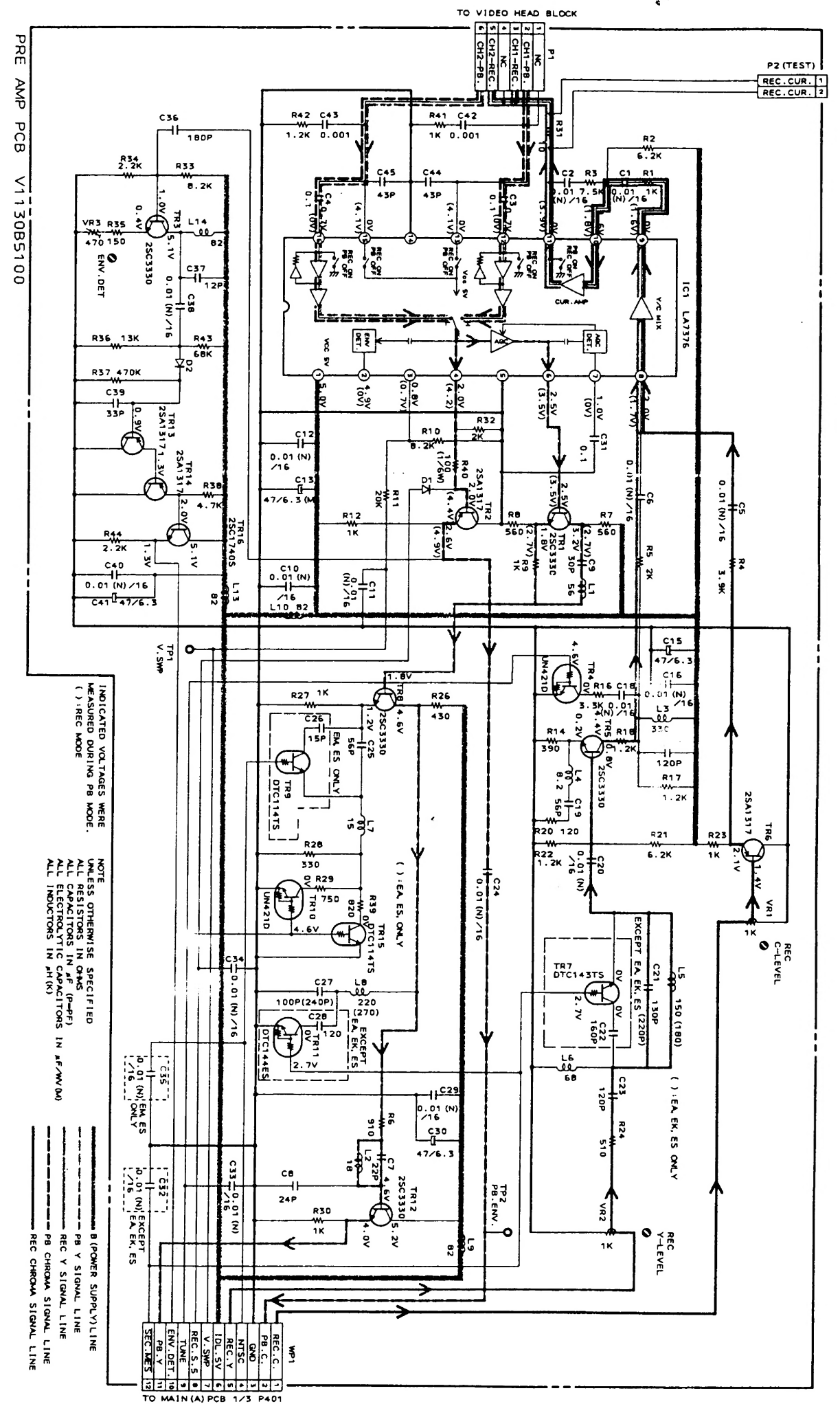
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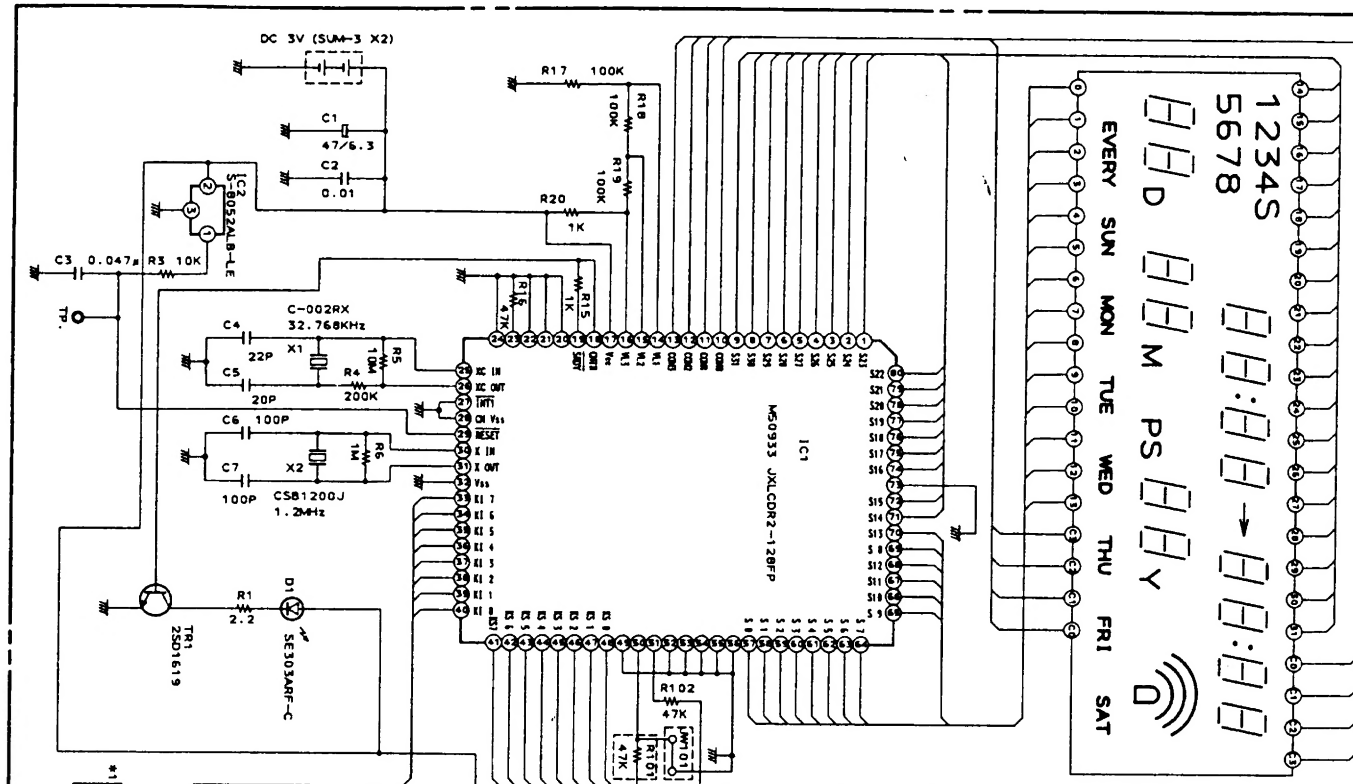


**VS-F280EOG**

```
PRE AMP PCB V1130B5100
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## Remote Control Unit Diagram



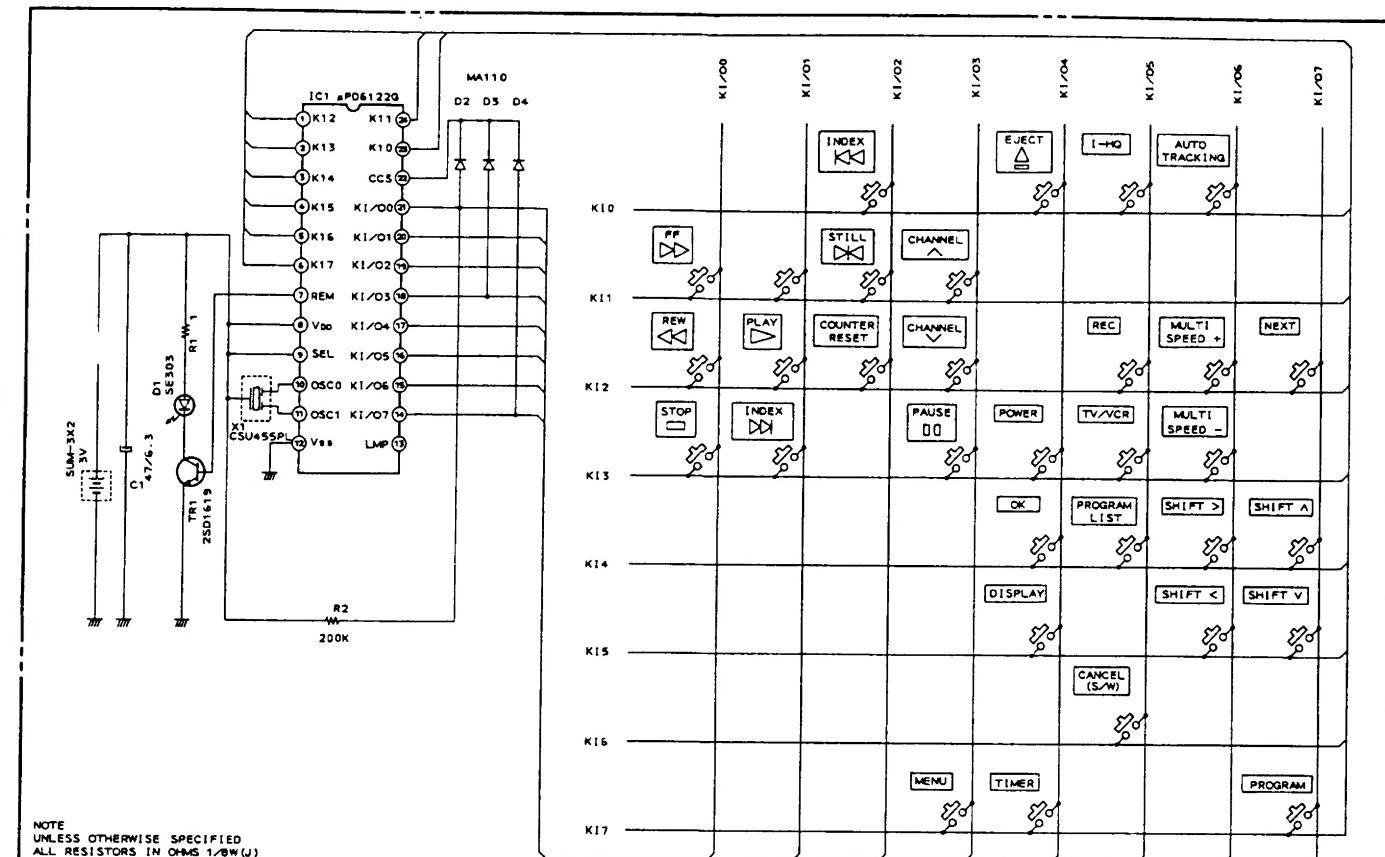
MODEL	JW101	R101
RC-V252E	○	—
RC-V252F	—	○

NOTE  
UNLESS OTHERWISE SPECIFIED  
ALL RESISTORS IN OHMS 1/4W(1)  
ALL CAPACITORS IN  $\mu$ F 50W/(J)

REMO-CON PCB B1024A5020

RC-V252E

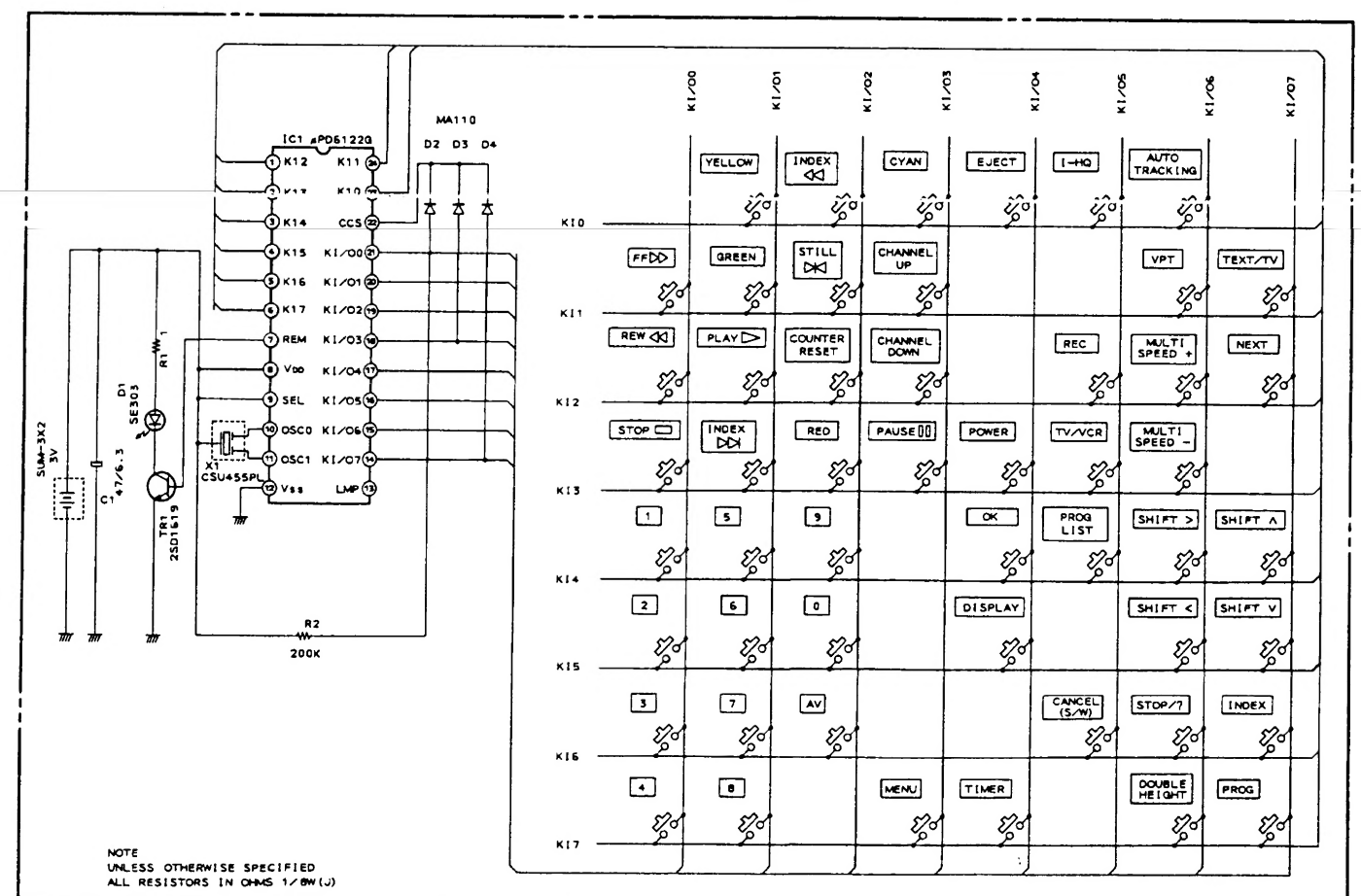
## Remote Control Diagram V250E



NOTE  
UNLESS OTHERWISE SPECIFIED  
ALL RESISTORS IN OHMS 1/8W(J)  
ALL CAPACITORS IN  $\mu$ F

RC-V250E

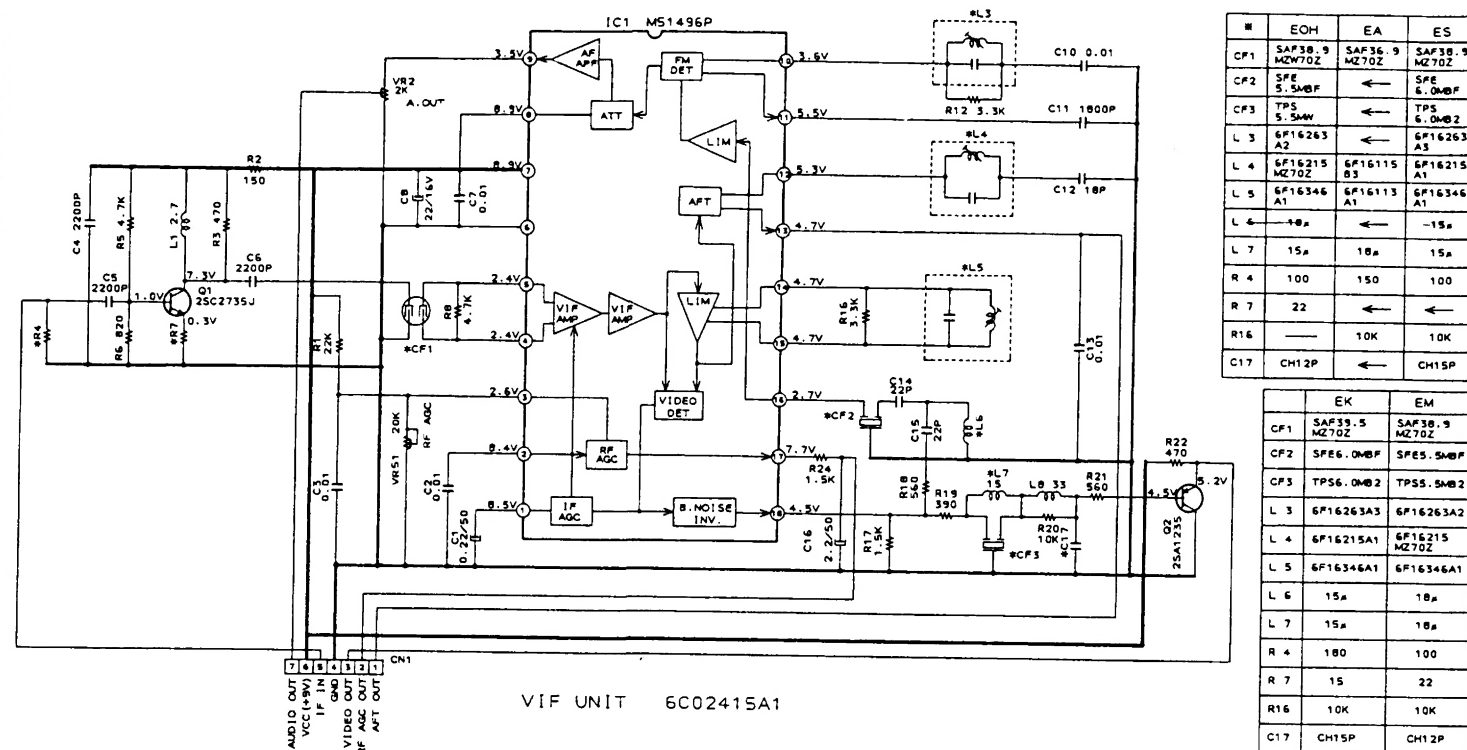
## Remote Control Diagram V251G



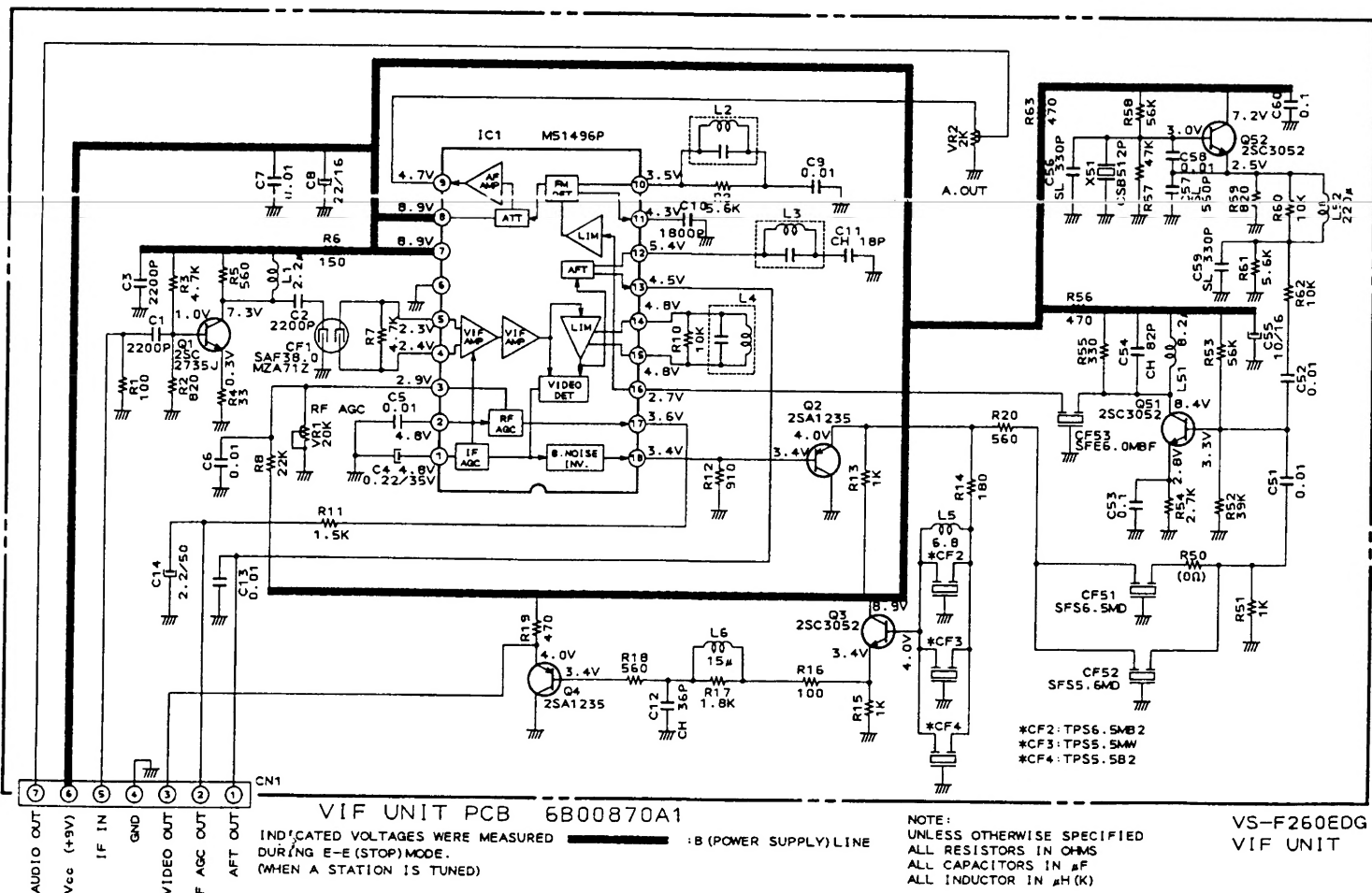
NOTE  
UNLESS OTHERWISE SPECIFIED  
ALL RESISTORS IN OHMS 1/8W(J)

RC-V251G

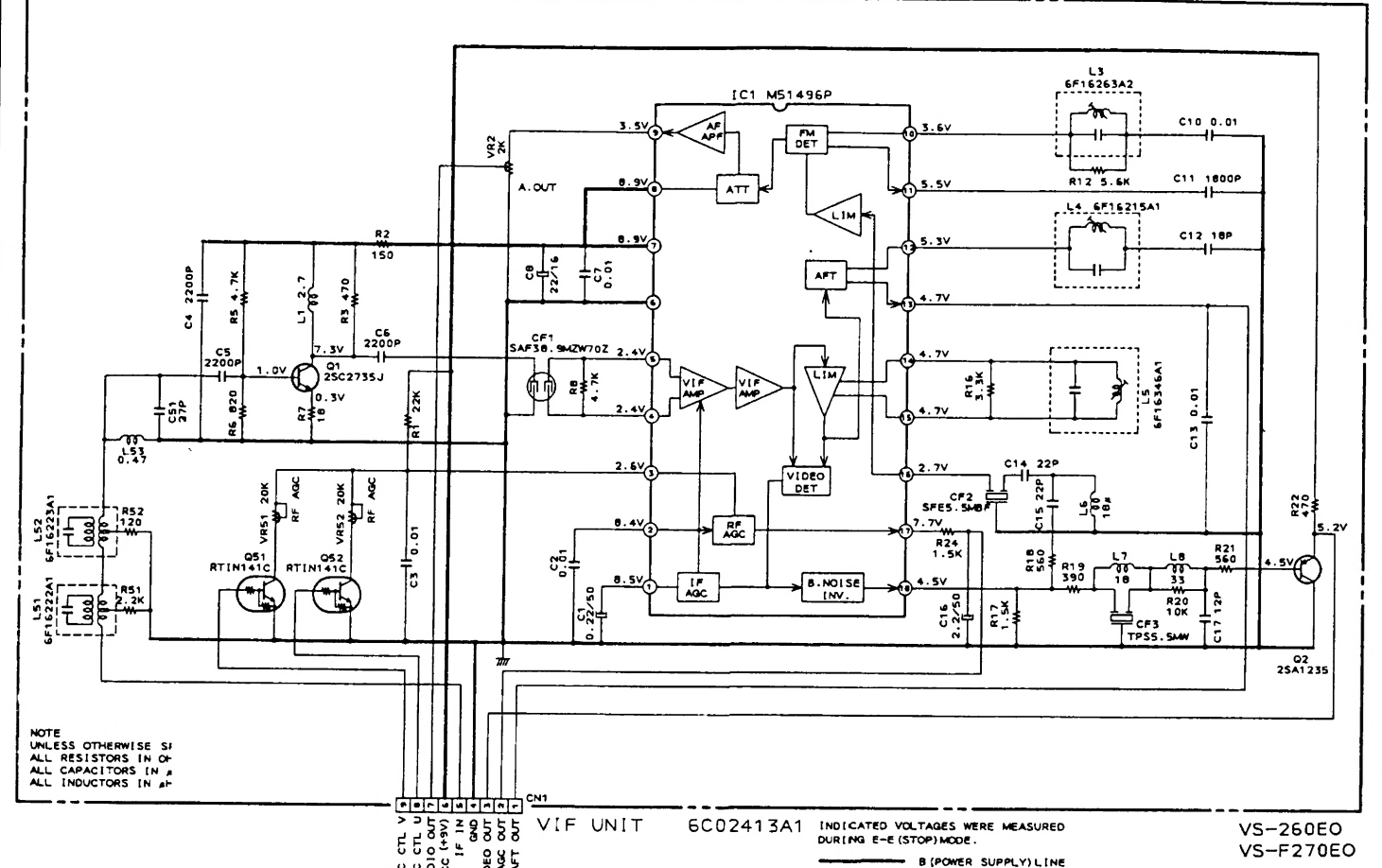
## VIF Unit Diagram EA/EK/EM/EOH/ES



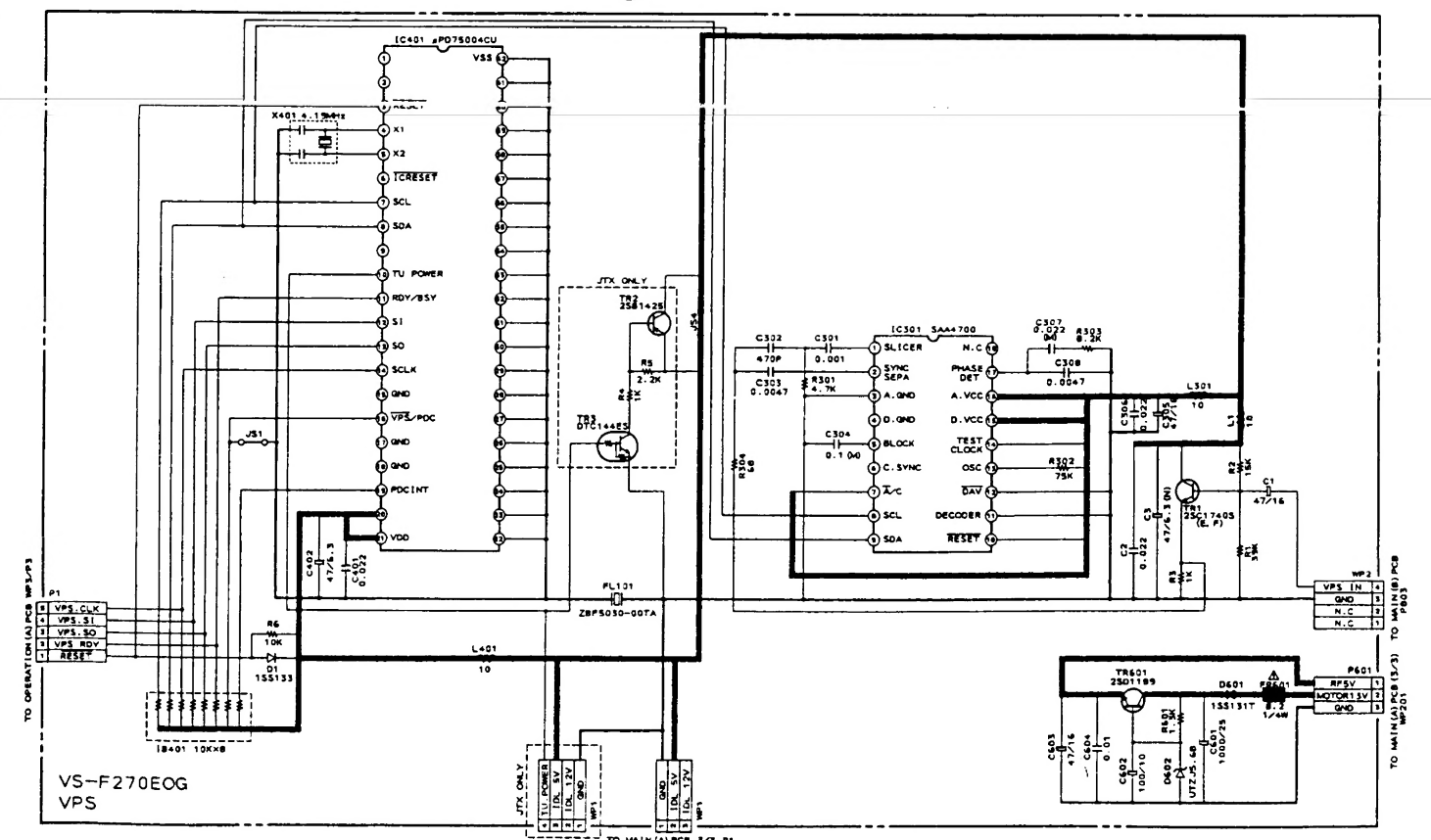
## VIF Unit Diagram VS-F260EDG



## VIF Unit Diagram VS-F260 EO / VS-F270EO/F280EO/EOG-V



## VPS Diagram VS-F270 EOG



U MAIN (A)  
CB 3/3 P1  
-----, TO OPERATION (A)  
PCB WP3/P3

